We claim:

1. An article comprising:

(A) a lean burn gasoline engine having an exhaust outlet;

(B) an upstream section having a close coupled catalyst composite in communication with the exhaust outlet, the upstream close coupled catalyst composite comprising:

(i) a first support;

(ii) a first platinum group component; and

(iii) a SO_x sorbent component selected from the group consisting of oxides and mixed oxides of barium, lanthanum, magnesium, manganese, neodymium, praseodymium, and strontium; and

(C) a downstream section comprising:

(i) a second support;

(ii) a second platinum group component; and

(iii) a NO_x sorbent component;

wherein the upstream section has substantially no components adversely affecting three-way conversion under operating conditions.

2. The article according to claim 1, wherein the first and second supports are independently selected from the group consisting of alumina, titania, and zirconia compounds.

3. The article according to claim 2, wherein the first and second supports are independently selected from the group consisting of alumina, alumina-zirconia, and alumina-ceria.

4. The article according to claim 1, wherein the first platinum group metal component is selected from the group consisting of platinum, palladium, rhodium in combination with platinum or palladium, and mixtures thereof.

5. The article according to claim 1, wherein the upstream section further comprises a third platinum group metal component different from the first platinum group metal component.

6. The article according to claim 1, wherein the second platinum group metal component is selected from the group consisting of platinum, palladium, rhodium in combination with platinum or palladium, and mixtures thereof.

7. The article according to claim 1, wherein the downstream section further comprises a fourth platinum group metal component different from the second platinum group metal component.

8. The article according to claim 1, wherein the SO_x sorbent component is selected from the group consisting of oxides and mixed oxides of barium, lanthanum, magnesium, neodymium, praseodymium, and strontium.

9. The article according to claim 8, wherein the SO_x sorbent component is selected from the group consisting of oxides and mixed oxides of barium, lanthanum, and magnesium.

10. The article according to claim 8, wherein the SO_x sorbent component is selected from the group consisting of oxides and mixed oxides of neodymium, praseodymium, and strontium.

11. The article according to claim 8, wherein the SO_x sorbent component is La_2O_3.

12. The article according to claim 1, wherein the NO_x sorbent component is selected from the group consisting of alkaline earth metal components, alkali metal components, and rare earth metal components.

13. The article according to claim 12, wherein the NO_x sorbent component is selected from the group consisting of oxides of calcium, strontium, and barium, oxides of potassium, sodium, lithium, and cesium, and oxides of cerium, lanthanum, praseodymium, and neodymium.

14. The article according to claim 13, wherein the NO_x sorbent component is selected from the group consisting of oxides of calcium, strontium, and barium.

15. The article according to claim 13, wherein the NO_x sorbent component is selected from the group consisting of oxides of potassium, sodium, lithium, and cesium.

16. The article according to claim 12, wherein the NO_x sorbent component is at least one alkaline earth metal component and at least one rare earth metal component selected from the group consisting of lanthanum and neodymium.

17. The article according to claim 1, wherein the upstream section or the downstream section, or both, further comprises a zirconium component.

18. The article according to claim 1, wherein the upstream substrate or the downstream substrate, or both, is supported on a metal or ceramic honeycomb carrier or is self-compressed.

19. A method for removing NO_x and SO_x contaminants from a gaseous stream comprising the steps of:

(A) operating a lean burn gasoline engine having an exhaust outlet;

(B) providing an upstream section comprising a close coupled catalyst composite in communication with the exhaust outlet and a downstream section:

(1) the upstream section having a close coupled catalyst composite comprising:

(i) a first support;

(ii) a first platinum group component; and

(iii) a SO_x sorbent component selected from the group consisting of oxides and mixed oxides of barium, lanthanum, magnesium, manganese, neodymium, praseodymium, and strontium; and

(2) the downstream section comprising:

(i) a second support;

(ii) a second platinum group component; and

(iii) a NO_x sorbent component;

wherein the upstream section has substantially no components adversely affecting three-way conversion under operating conditions;

(C) in a sorbing period, passing a lean gaseous stream comprising NO_x and SO_x within a sorbing temperature range through the upstream section to sorb at least some of the SO_x contaminants and thereby provide a SO_x depleted gaseous stream exiting the upstream section and entering the downstream section to sorb and abate at least some of the NO_x contaminants in the gaseous stream and thereby provide a NO_x depleted gaseous stream exiting the downstream section;

(D) in a SO_x desorbing period, converting the lean gaseous stream to a rich gaseous stream and raising the temperature of the gaseous stream to within a desorbing temperature range to thereby reduce and desorb at least some of the SO_x contaminants from the upstream section and thereby provide a SO_x enriched gaseous stream exiting the upstream section; and

(E) in a NO_x desorbing period, converting the lean gaseous stream to a rich gaseous stream to thereby desorb and reduce at least some of the NO_x contaminants from the downstream section and thereby provide a NO_x enriched gaseous stream exiting the downstream section.

20. The method according to claim 19, wherein the first and second supports are independently selected from the group consisting of alumina, titania, and zirconia compounds.

21. The method according to claim 20, wherein the first and second supports are independently selected from the group consisting of alumina, alumina-zirconia, and alumina-ceria.

22. The method according to claim 19, wherein the first platinum group metal component is selected from the group consisting of platinum, palladium, rhodium in combination with platinum or palladium, and mixtures thereof.

23. The method according to claim 19, wherein the upstream section further comprises a third platinum group metal component different from the first platinum group metal component.

24. The method according to claim 19, wherein the second platinum group metal component is selected from the group consisting of platinum, palladium, rhodium in combination with platinum or palladium, and mixtures thereof.

25. The method according to claim 19, wherein the downstream section further comprises a fourth platinum group metal component different from the second platinum group metal component.

26. The method according to claim 19, wherein the SO_x sorbent component is selected from the group consisting of oxides and mixed oxides of barium, lanthanum, magnesium, neodymium, praseodymium, and strontium.

27. The method according to claim 26, wherein the SO_x sorbent component is selected from the group consisting of oxides and mixed oxides of barium, lanthanum, and magnesium.

28. The method according to claim 26, wherein the SO_x sorbent component is selected from the group consisting of oxides and mixed oxides of neodymium, praseodymium, and strontium.

29. The method according to claim 26, wherein the SO_x sorbent component is La_2O_3.

30. The method according to claim 29, wherein the NO_x sorbent component is selected from the group consisting of oxides of calcium, strontium, and barium, oxides of potassium, sodium, lithium, and cesium, and oxides of cerium, lanthanum, praseodymium, and neodymium.

31. The method according to claim 29, wherein the NO_x sorbent component is selected from the group consisting of oxides of calcium, strontium, and barium.

32. The method according to claim 29, wherein the NO_x sorbent component is selected from the group consisting of oxides of potassium, sodium, lithium, and cesium.

33. The method according to claim 19, wherein the NO_x sorbent component is at least one alkaline earth metal component and at least one rare earth metal component selected from the group consisting of lanthanum and neodymium.

34. The method according to claim 19, wherein the upstream section or the downstream section, or both, further comprises a zirconium component.

35. The method according to claim 19, wherein the upstream substrate or the downstream substrate, or both, is supported on a metal or ceramic honeycomb carrier or is self-compressed.

36. The method according to claim 19, wherein the SO_x desorbing temperature range in (D) is greater than about 550°C.

37. The method according to claim 19, wherein the SO_x desorbing temperature range in (D) is greater than about 600°C.

38. The method according to claim 19, wherein the SO_x desorbing temperature range in (D) is greater than about 650°C.

39. The method according to claim 19, wherein the SO_x desorbing temperature range in (D) is greater than about 700°C.

40. A method of forming a catalyst composite having a close coupled upstream section and a downstream section which comprises the steps of:

(A) forming a close coupled upstream section comprising:

(i) a first support;

(ii) a first platinum group component; and

(iii) a SO_x sorbent component selected from the group consisting of oxides and mixed oxides of barium, lanthanum, magnesium, manganese, neodymium, praseodymium, and strontium; and

(B) forming a downstream section comprising:

(i) a second support;

(ii) a second platinum group component; and

(iii) a NO_x sorbent component;

wherein the upstream section has substantially no components adversely affecting three-way conversion under operating conditions.